

REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars.

1. In the claims

As shown in the foregoing LIST OF CURRENT CLAIMS, the claims have been amended to more clearly point out the subject matter for which protection is sought.

A. Claim amendments

Claim 30 has been reworded to positively recite that the security element according to claim 1 is secured to goods of any kind. It is respectfully submitted that no new matter is added, since the change merely rewords the features of the previously presented claim, and support for the revision can be found, for example, at least in paragraph [0034] of the accompanying description in the specification as originally filed.

Claims 1-29 and 31-64 are left unchanged.

Entry of the LIST OF CURRENT CLAIMS is respectfully requested in the next Office communication.

B. Rejection of claim 30 under 35 U.S.C. § 101

Reconsideration of this rejection is respectfully requested, in view of the amendment to claim 30, on the basis that amended claim 30 positively recites that the security element according to claim 1 is secured to goods of any kind, and thus satisfies at least the statutory class of a machine or manufacture.

Accordingly, amended claim 30 is considered to be statutory subject matter, and withdrawal of this rejection is kindly requested.

2. Rejection of claims 1-4, 9, 10, 13, 15, 20-34, 39-41, and 45 under 35 U.S.C. § 103(a) as being unpatentable over German publication no. DE 10203035 (*Heim*) (U.S. patent no. 7,085,058 being utilized as a working English language translation)

Reconsideration of this rejection is respectfully requested on the basis that the rejection fails to establish a *prima facie* case of obviousness with respect to claims 1 and 31, from which claims 2-4, 9, 10, 13, 15, 20-30, 32-34, 39-41, and 45 respectively depend.

By way of review, pending claim 1 requires a security element that includes a reflection layer, an absorber layer and a spacer layer disposed between reflection layer and absorber layer, wherein the spacer layer is formed by a printed layer having dispersion particles with monomodal or oligomodal size distribution.

Similarly, pending claim 31 recites a method for manufacturing a security element that has a reflection layer, an absorber layer and a spacer layer disposed between reflection layer and absorber layer, the method including applying the spacer layer by a printing method with a printing ink having dispersion particles with monomodal or oligomodal size distribution.

While the *Heim* publication does disclose a security element with a layer structure having a color shift effect, it is respectfully submitted that the *Heim* publication fails to disclose or suggest at least a spacer layer formed by a printed layer having dispersion particles with monomodal or oligomodal size distribution, as is required by claims 1 and 31.

In particular, the *Heim* publication discloses the layer structure of the security element to be a multilayer interference element I, a layer M with magnetic properties, and a reflection layer R located between the interference element I and the layer M with magnetic properties (col. 4, lines 14-20 of the '058 patent).

The multilayer interference element I includes an absorber layer A and a dielectric layer D positioned beneath the absorber layer A (col. 4, lines 28-31 of the '058 patent).

Thus, similarly to claims 1 and 31, the *Heim* publication discloses a reflection layer R, an absorber layer A, and a dielectric layer D positioned between the reflection layer R and the absorber layer A, such that the dielectric layer D may be considered to be a spacer layer.

However, the *Heim* publication fails to disclose or suggest that the disclosed dielectric layer D is formed by a printed layer having dispersion particles with monomodal or oligomodal size distribution, as is required by claims 1 and 31.

It is noted that the Office action on page 3 indicates that the *Heim* publication discloses that the layers can be printed on (reference to col. 5, lines 35-37 of the '058 patent). However, this passage of the '058 patent does not provide any teaching that the spacer/dielectric layer D of the *Heim* publication can be printed on.

As is clearly disclosed in the *Heim* publication, each of the layers A, D, R, M, are preferably produced by means of vacuum vapor deposition, for example, physical vapor deposition, electron-beam vapor deposition, chemical vapor deposition, or sputtering in reactive plasma or any other plasma activated vapor deposition method (col. 2, lines 50-53 and col. 5, lines 21-35 of the '058 patent).

The full passage relied upon by the Office action states "apart from vapor deposition methods layers can, *if possible*, also be printed on. Here, the *magnetic layer* can placed in the layer structure with the use of suitable printing inks." (emphasis added; col. 5, lines 35-38 of the '058 patent).

Thus, the *Heim* publication only discloses that it is possible to print the *magnetic layer*, but does not disclose or suggest that it is possible to print the dielectric/spacer layer, as is required by pending claims 1 and 31.

In fact, with regard to the dielectric layer, the *Heim* publication clearly (if indirectly) discloses that the dielectric layer must be vapor deposited. The Office action on page 4 correctly indicates that the materials disclosed for use as the dielectric layer in the *Heim* publication are solid at room temperature (col. 4, lines 47-55 of the '058 patent). It is disclosed in the context of the discussion of all of the materials listed, however, that the solid materials should be vapor deposited. Specifically, the identified passage listing the specific materials states "in principle, nearly all clear compounds *which can be vapor deposited* are acceptable." (emphasis added).

Thus, absent the improper hindsight use of the disclosure of the pending application, the *Heim* publication only discloses applying the dielectric layer by vapor deposition, and that the cited materials are suitable for use precisely because they can be vapor deposited.

Therefore, it is respectfully submitted that the *Heim* publication fails to disclose or suggest at least a spacer layer formed by a printed layer, as is required by claims 1 and 31.

Further, and as generally acknowledged in the Office action on page 3, the *Heim* publication fails to disclose or suggest the use of dispersion particles with monomodal or oligomodal size distribution in the printed spacer layer, as is required by claims 1 and 31.

The Office action contends on page 4 that it would have been obvious for a person having ordinary skill in the art to utilize dispersion particles with monomodal or oligomodal size distribution in the printed spacer layer, since "it is known in the coating art that the use of particles of the same size, or close thereto, produces coatings having higher uniformity and more predictable coating results since there will not be areas with greater thickness and less density due to the presence of large particles and areas with smaller thickness and more density due to the presence of small particles."

Firstly, the Office action provides no evidentiary support for this assertion, and appears to be utilizing improper hindsight by taking the disclosure of the pending application and simply stating that it would be obvious to utilize the features of the pending application in the security element of the *Heim* publication, in contrast to the requirements in MPEP § 2142 (reproduced in part below).

To reach a proper determination under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made. In view of all factual information, the examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person. Knowledge of applicant's disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the "differences," conduct the search and evaluate the "subject matter as a whole" of the invention. The tendency to resort to "hindsight" based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.

ESTABLISHING A *PRIMA FACIE* CASE OF OBVIOUSNESS

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval).

There is nothing in the *Heim* publication to suggest to a person having ordinary skill in the art that the use of dispersion particles with monomodal or oligomodal size distribution in the dielectric layer is appropriate.

Further, the assertion on page 4 of the Office action that the use of particles having the same size or close thereto produce coatings having higher uniformity has no evidentiary support, and is wrong with respect to particles of oligomodal size distribution.

To begin, simply because a coating includes particles having the same size or close thereto does not imply that a coating will have higher uniformity. There are many ways that such a coating may, in fact, be non-uniform, for example, the application technique could be such that the coating has areas of with greater thickness and less density and areas with smaller thickness and more density, regardless of the particles having the same size or close thereto.

Further, particles of oligomodal size distribution may have very different sizes. An oligomodal size distribution is a mixture of several monomodal size distributions (in other words, the size distribution curve shows several peak values). Thus, the assertion on page 4 of the Office action regarding the use of particles having the same size or close thereto is incorrect with respect to particles of oligomodal size distribution.

Further still, contrary to the assertion on page 4 of the Office action, it is not necessary to utilize particles having the same size or close thereto in order to achieve a uniform coating. In particular, see the uniform coating in Fig. 4 of the pending application, as described in paragraph [0070], which utilizes a bimodal size distribution (particles of two different sizes), yet still provides a uniform coating.

Accordingly, it is respectfully submitted that there is no disclosure or suggestion to a person having ordinary skill in the art that the use of dispersion particles with monomodal or oligomodal size distribution in the dielectric layer of the *Heim* publication is appropriate.

Therefore, since the *Heim* publication fails to disclose or suggest at least a spacer layer formed by a printed layer having dispersion particles with monomodal or oligomodal size distribution, as is required by claims 1 and 31, the rejection fails to establish a *prima facie* case of obviousness with respect to claims 1 and 31, from which claims 2-4, 9, 10, 13, 15, 20-30, 32-34, 39-41, and 45 respectively depend.

Accordingly, withdrawal of this rejection is respectfully requested.

Claims 2-4, 9, 10, 13, 15, 20-30, 32-34, 39-41, and 45, which depend from claim 1 or 31, are also considered to be patentable as containing all of the features of claim 1 or 31, as well as for their respective recited features.

Further, with respect to claims 2, 4, 33, and 34, the Office action provides no evidentiary support for the assertion that particles having spherical shape are most common. In fact, particles in printing inks do not necessarily need to have a spherical shape, as evidenced by the shape of the particles as shown in Figure 9 of the pending application.

3. Rejection of claims 5, 11, 12, 16-18, 42-44, 46-50, 54-59, and 64 under 35 U.S.C. § 103(a) as being unpatentable over German publication no. DE 10203035 (*Heim*) (U.S. patent no. 7,085,058 being utilized as a working English language translation) in view of WIPO publication WO 01/03945 (*Bonkowski et al.*)

Reconsideration of this rejection is respectfully requested on the basis that the rejection fails to establish a *prima facie* case of obviousness with respect to claims 1, 31, 46, 55, and 56, from which claims 5, 11, 12, 16-18, 42-44, 47-50, 54, 57-59, and 64 respectively depend.

The deficiencies of the *Heim* publication with respect to claims 1 and 31 are discussed above in detail, and are also applicable to independent claims 46, 55, and 56, since claims 46, 55, and 56 also recite at least a reflection layer, an absorber layer and a spacer layer disposed between reflection layer and absorber layer, wherein the spacer

layer is formed by a printed layer having dispersion particles with monomodal or oligomodal size distribution.

It is respectfully submitted that the *Bonkowski* publication fails to provide for the deficiencies of the *Heim* publication.

In particular, the deficiencies of the *Bonkowski* publication were discussed in detail in the response filed August 7, 2009 with respect to the corresponding U.S. patent no. 6,761,959 (*Bonkowski et al.*), which arguments are incorporated herein by reference.

Specifically, the *Bonkowski* publication fails to disclose a reflection layer, an absorber layer and a spacer layer disposed between reflection layer and absorber layer, wherein the spacer layer is formed by a printed layer having dispersion particles with monomodal or oligomodal size distribution, as required by pending claims 1, 31, 46, 55, and 56.

As discussed in the specification at paragraph [0004], previous thin dielectric layers are produced by a complex vapor deposition method.

This is further described in the *Bonkowski* publication, where the formation of a dielectric layer 20 positioned between an absorber layer 18 and a reflector layer 22 is accomplished by the use of a conventional deposition process, such as physical vapor deposition (PVP), reactive DC sputtering, RF sputtering, or the like (page 9, line 32 (col. 4, lines 62-67 and col. 5, lines 15-18 of the '959 patent)). There is no hint or suggestion in the *Bonkowski* publication that the dielectric layer 20 can be formed by a printed layer, as is required by claims 1, 31, 46, 55, and 56.

While the *Bonkowski* publication does disclose the use of various printing methods to apply a color shifting ink or paint to form an optical coating 26, the optical coating 26 is not a spacer layer positioned between a reflection layer and an absorber layer, as is required by claims 1, 31, 46, 55, and 56. Instead, the ink or paint used to form the optical coating 26 includes flakes of thin film material having an absorber layer, a

dielectric layer, and optionally, a reflector layer, formed in the same manner as described above (col. 7, line 42 through col. 8, line 2 of the '959 patent).

Thus, the *Bonkowski* publication fails to disclose a thin layer element that has a structure comprising three layers, a reflection layer, an absorber layer and a spacer layer disposed between reflection layer and absorber layer, where the spacer layer is applied by a printing method, as is required by claims 1, 31, 46, 55, and 56.

Further, as acknowledged on page 4 of the Office action dated April 28, 2009, the *Bonkowski* patent/publication fails to disclose a printing ink having dispersion particles with monomodal or oligomodal size distribution, as required by claims 1, 31, 46, 55, and 56.

Therefore, since the *Bonkowski* publication fails to provide for the deficiencies of the *Heim* publication, and in particular, fails to disclose or suggest a reflection layer, an absorber layer and a spacer layer disposed between reflection layer and absorber layer, wherein the spacer layer is formed by a printed layer having dispersion particles with monomodal or oligomodal size distribution, as required by pending claims 1, 31, 46, 55, and 56, the rejection fails to establish a *prima facie* case of obviousness with respect to claims 1, 31, 46, 55, and 56, from which claims 5, 11, 12, 16-18, 42-44, 47-50, 54, 57-59, and 64 respectively depend.

Accordingly, withdrawal of this rejection is respectfully requested.

Claims 5, 11, 12, 16-18, 42-44, 47-50, 54, 57-59, and 64, which depend from claim 1, 31, 46, 55, or 56, are also considered to be patentable as containing all of the features of claim 1, 31, 46, 55, or 56, as well as for their respective recited features.

4. Allowable Subject Matter

The applicants gratefully acknowledge the indication of allowable subject matter in claims 6-8, 14, 19, 35-38, 51-53, and 60-63. However, for the reasons discussed above, it is respectfully submitted that the independent claims from which claims 6-8, 14,

19, 35-38, 51-53, and 60-63 respectively depend are patentable. Therefore, the subject matter of claims 6-8, 14, 19, 35-38, 51-53, and 60-63 has not been rewritten in independent form.

5. Conclusion

As a result of the amendment to the claims, and further in view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is respectfully requested that every pending claim in the present application be allowed and the application be passed to issue.

Please charge any additional fees required or credit any overpayments in connection with this paper to Deposit Account No. 02-0200.

If any issues remain that may be resolved by a telephone or facsimile communication with the applicants' attorney, the examiner is invited to contact the undersigned at the numbers shown below.

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Respectfully submitted,

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